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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,445	06/29/2000	Narendra Pulimi	CS10744	8066

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Personal Communications Sector
Intellectual Property Department (PJB)
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EXAMINER

GELIN, JEAN ALLAND

ART UNIT

PAPER NUMBER

2681

9

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/606,445

Applicant(s)

PULIMI ET AL.

Examiner

Jean A Gelin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-16 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 8 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to the Applicant's amendments and arguments received February 11, 2003 in which claims 1 and 3 have been amended. Claims 1-8 and 10-16 are currently pending.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "linear axis 6" in page 2, line 15, as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the first and second element extend the linear axis", turns around a linear axis", etc.. must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 7 is objected to because of the following informalities: --of-- should be added after "second element" in line 3. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Tay et al ("Tay"), U.S. Patent No. 5,563,615.

Regarding claim 1, Tay discloses a broadband (i.e., multi-band) antenna apparatus comprising: a broadband (or multi-band) antenna (figs. 1-3) including a first element (i.e., inner element) and a second element (i.e., outer element), the first and second (i.e., inner element and outer element) elements having different resonant frequencies (col. 4, lines 12-23); a grounded helical antenna (i.e., helix coil 12, which includes in the broadband antenna, is shorted to ground portion 44 of fig. 1) surrounding the signal feed portion 34, i.e., multi-band antenna (col. 2, lines 51-55, col. 3, lines 39-52).

Regarding claim 3, Tay discloses a broadband (i.e., multi-band) antenna apparatus comprising: a broadband (or multi-band) antenna (figs. 1-3) including a helical antenna and a monopole antenna, the helical antenna and the monopole antenna having different resonant frequencies (col. 3, lines 38-43, col. 4, lines 18-23); a grounded helical antenna (i.e., helix coil 12, which includes in the broadband antenna, is shorted to ground portion 44 of fig. 1) surrounding the signal feed portion 34, i.e., multi-band antenna (col. 2, lines 51-55, col. 3, lines 39-52).

Regarding claim 4, Tray teaches the helical antenna includes turns around a linear axis and distance between adjacent turns (col. 4, tables 1 and 2).

Regarding claim 6, Tay discloses a transceiver (or cellular telephone) figs. 1-2 antenna comprising: an inner antenna (203) including a first element (201) and a second element (202), the first and second elements having different resonant frequencies (col. 2, lines 1-20, col. 3, lines 39-52); and a radio frequency (RF) grounded helical antenna surrounding the inner antenna, the RF grounded helical antenna including (i.e., helix coil 12, which includes in the broadband antenna, is shorted to ground portion 44 of fig. 1, col. 2, lines 51-55, and col. 3, lines 39-52), a first section having a distance between adjacent turns of a first predetermined amount (col. 4, lines 48-49, 63-64), and a second section having a distance between adjacent turns of a second predetermined amount, the second predetermined amount less than the first predetermined amount (col. 4, lines 48-49, 63-64).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tay in view of Applicant's admission of prior art.

Regarding claims 2 and 8, Tay teaches the helical antenna 12 is grounded to ground plane 42, and the ground plane 42 and the helical antenna coupled to the

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transceiver, (i.e., which is within a mobile radio as suggested in col. 1, lines 17-18), (col. 3, lines 18-25); a printed circuit board (PCB) which is typical within a mobile radio, or cellular telephone housing, (col. 3, lines 18-25). Tray further teaches one end of the helix is shorted to a ground portion of a feed port connected to a ground plane (i.e., inherently the ground plane is associated with metal, col. 3, lines 19-24)

Tray does not specifically the cellular telephone housing formed of a conductive material.

However, the Applicant admits in the Disclosure that it is "known in the art" the apparatus characterized by: a cellular telephone housing formed of a conductive material (page 4, lines 2027). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the system of Tay to include a conductive housing for the purpose of preventing electromagnetic energy present in the interior space from passing through the surface of the housing.

Allowable Subject Matter

8. Claims 12-16 are allowed.

9. Claims 5, 7, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior art teaches a grounded helical antenna connected to a ground plane.

As per claim 5 on the other hand, the Applicant teaches wherein the grounded helical antenna comprises a top portion a top section and a lower section along the

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linear axis, the lower section coupled to the metalized ground plane and the top section located at an end opposite the lower section along the linear axis, a distance between adjacent turns of the top section narrower than a distance between adjacent turns of the lower section narrower than a distance between adjacent turns of the lower section. This limitation, in conjunction with all limitations of the independent and dependent claims, has not been disclosed, taught, or made obvious over the prior art of record.

Claims 7, 10, are objected for the same reason recited in the previous Office Action (paper #7).

Claims 12-16 are objected for the same reason recited in the previous Office Action (paper #3).

Response to Arguments

11. Applicant's arguments filed 2/11/03 have been fully considered but they are not persuasive.

As per claim 1, the Applicant argues that Tray fails to disclose a first element or a second element of a multi band antenna, which both extend along a common linear axis, beside one another. However, the preceding limitation is read on Tray wherein Tray teaches an inner element and outer element on the same axis (fig. 1, and col. 2, lines 51-55). The Applicant further argues that the first element and the second element are independent from the grounded helical antenna. This limitation is nowhere to be found in the claim.

The Applicant argues that the grounded helical antenna surrounds multi-band antenna. However, the Examiner believes the preceding limitation is read on Tray as

follow: a grounded helical antenna is the helical coil 12, which surrounds the signal feed portion 34 (col. 2, lines 51-55, col. 3, lines 39-52). Therefore, the Examiner maintains the same prior art of record and adds some explanation to previous Office Action for clarity (see rejection above).

As per claim 6, the Applicant argues that Tray fails to disclose a grounded helical antenna, which includes a second section having a distance between adjacent turns that is different than the distance between adjacent turns of a first section. However, the preceding limitation is not present in the claims. It is to be noted that individual loops within the helix are separated from each other, as depicted in figs. 1-2

As per claims 2 and 8, the Applicant argues that the prior arts fail to teach a metalize ground plane. However, the Examiner believes that the preceding limitation is read on Tray wherein Tray teaches the connection between a ground plane, a transceiver, and the helix coil antenna 12 involves the use of SMA type connector (col. 5, lines 5-7); inherently, the ground plane 42 is associated with metal. Therefore, the claim is rejected, as recited in the Office Action Above.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean A Gelin whose telephone number is (703) 305-4847. The examiner can normally be reached on 9:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (703) 305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

J.Gelin
April 28, 2003

J.G


DWAYNE BOST
SUPERVISORY PATENT EXAMINER
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